



RS/EO Data for Monitoring Change in Ecological Integrity of Canada's National Parks – Park Descriptions

**NPS/PCA/NASA/CSA/CCRS
Interagency Workshop, St. Petersburg, Florida
March 1-3, 2005**



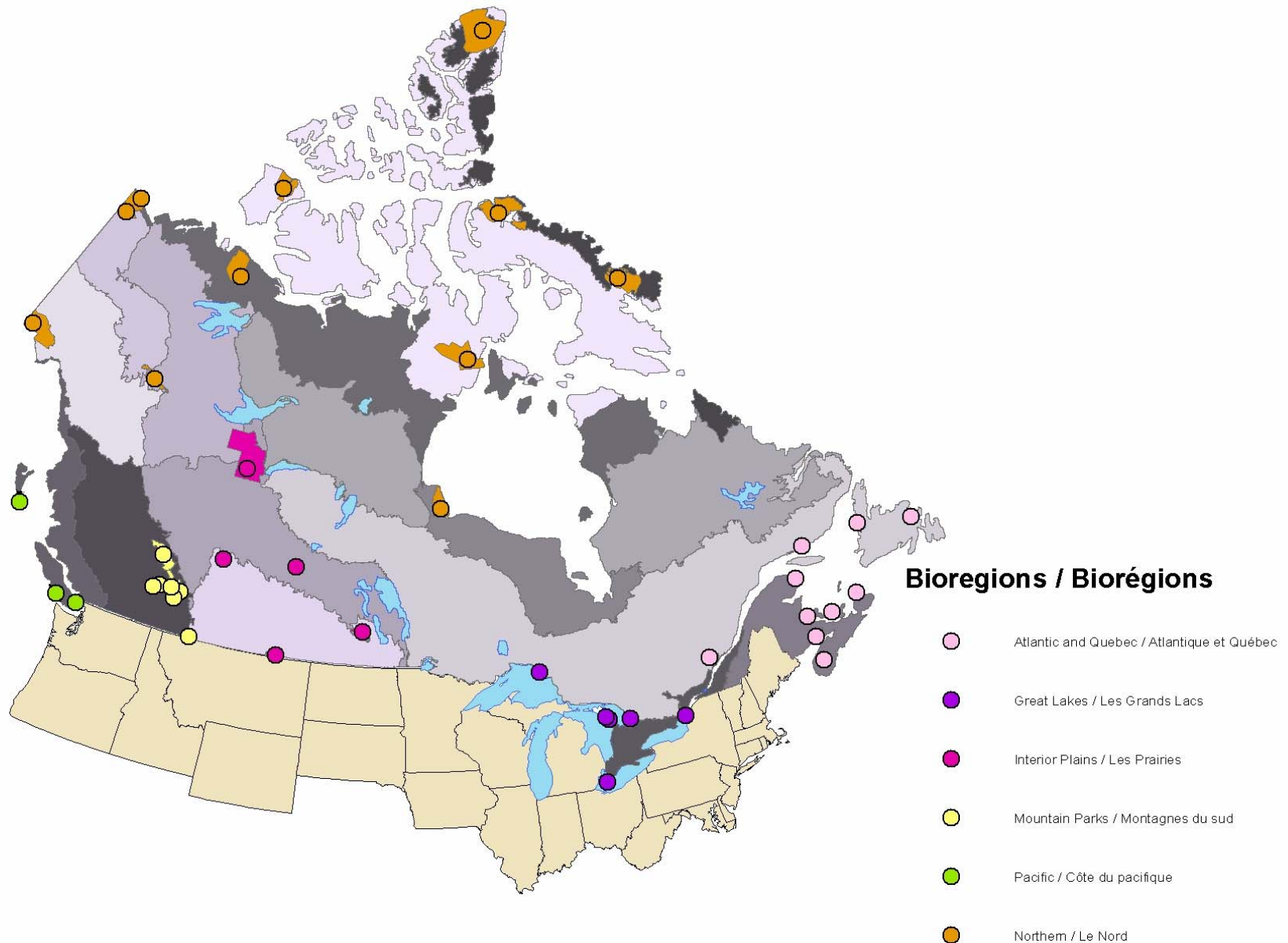
Parks
Canada

Parcs
Canada

Canada

Bioregional Groups of Canada's National Parks by Ecozone

Les groupes biorégionaux des parcs nationaux de Canada, par écozone



Preliminary Classification of Canada's National Parks for Assessing GPE Effects

1. Large, remote, unroaded parks with very little GPE pressure

Arctic Group: Ukkusikalik, Quttinirpaaq, Aulavik, Ivavik/Vuntut, Sirmilik, **Auyituuq**, Tuktot Nogait,

Northern Forested Group: Kluane, Nahanni, Wapusk

2. Medium to large forested (except Grasslands) parks with industrial forestry, farming/ranching, rural-residential, and mining in GPE

Rocky Mountain Group: Banff, Jasper, Glacier, Waterton Lakes, Yoho, Kootenay, Mount Revelstoke

Boreal/Acadian F: Wood Buffalo, Prince Albert, Riding Mountain, Elk Island, **La Mauricie**, Forillon, Gros Morne, Terra Nova, Kejimikujik (mainland), Fundy, Cape Breton Highlands, Pukaskwa

Grasslands Group: Grasslands

3. Coastal, forested parks with significant marine components with both marine and terrestrial stressors in the GPE, as well as some 'island effects'.

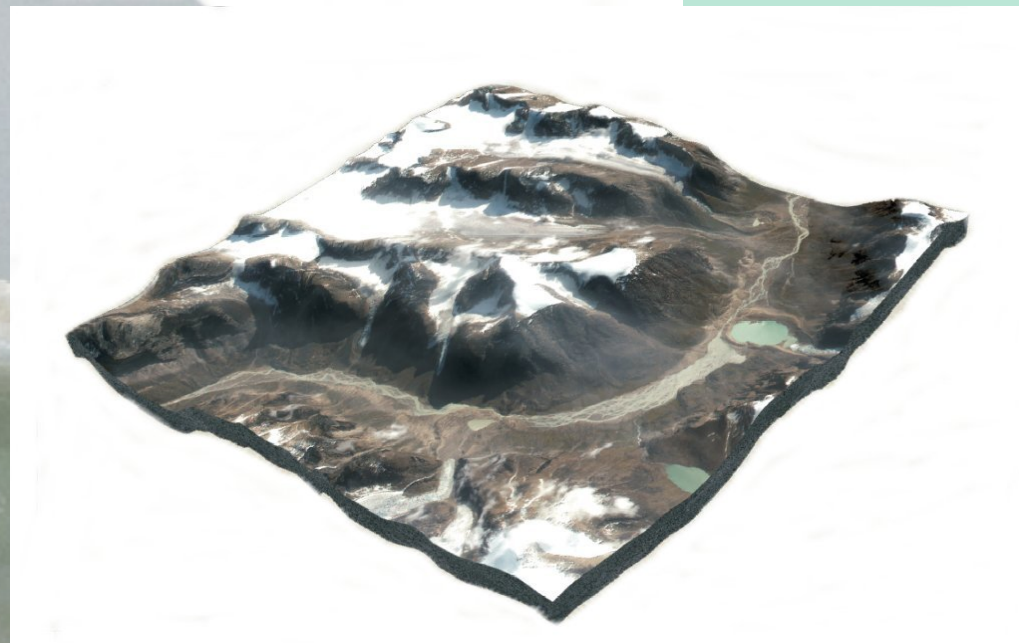
Mainland/Large Island Group: Pacific Rim, Prince Edward Island, Kouchibouguac, Kejimikujik Adjunct

Island Group: Gulf Islands, Gwaii Haanas, Mingan,

4. Small, southern parks with industrial agricultural, high populations, and urban/suburban stressors in the GPE; heavily roaded

St. Lawrence Islands, Point Pelee, Georgian Bay Islands, Bruce Peninsula (Prince Edward Island)






Parks
Canada

Parcs
Canada

Canada



Auyuittuq

 Park Boundary

0 12.5 25 50 75 100 Kilometers



climate change,
sensitive ecosystems



Parks
Canada

Parcs
Canada

Canada 

Auyuittuq NP

Purpose	To represent the Canadian Shield's Northern extremity of Northern Davis Natural Region; Ecozones: Northern Arctic and Arctic Cordillera
Year Established	1972 as Baffin Island NP renamed in 1974. In 1993, a formal agreement was reached to negotiate formal establishment of the reserve to a national park.
Park & GPE Area	Park: 19,600 (mostly located on Baffin Mountains); GPE: 27,860 (located in NE section of Baffin Island; situated beside the Davis Strait)
Ecological Features	Largely unvegetated park dominated by deep fiords and rugged mountains with permanent ice fields; glaciers flow down into the surrounding thin-soiled valleys dominated by sparse tundra vegetation ecosystems
Visitation/Activities	< 500 people per year). Mountain climbing, ice field skiing, and backpacking
Species Issues	Mammals: 21; Birds: 40; Fish: 13; Plants: 119; Species at Risk (SAR): 6. Four out of six SAR species are mammals: Polar Bear, Wolverine, Bowhead Whale, and Beluga Whale.
Stress/Impacts	visitors in sensitive areas/archaeological sites, and permafrost – temperature regime changes.





La Mauricie NP



**Boreal Forest - Acadian
Forest transition**



Parks
Canada

Parcs
Canada

Canada

La Mauricie NP

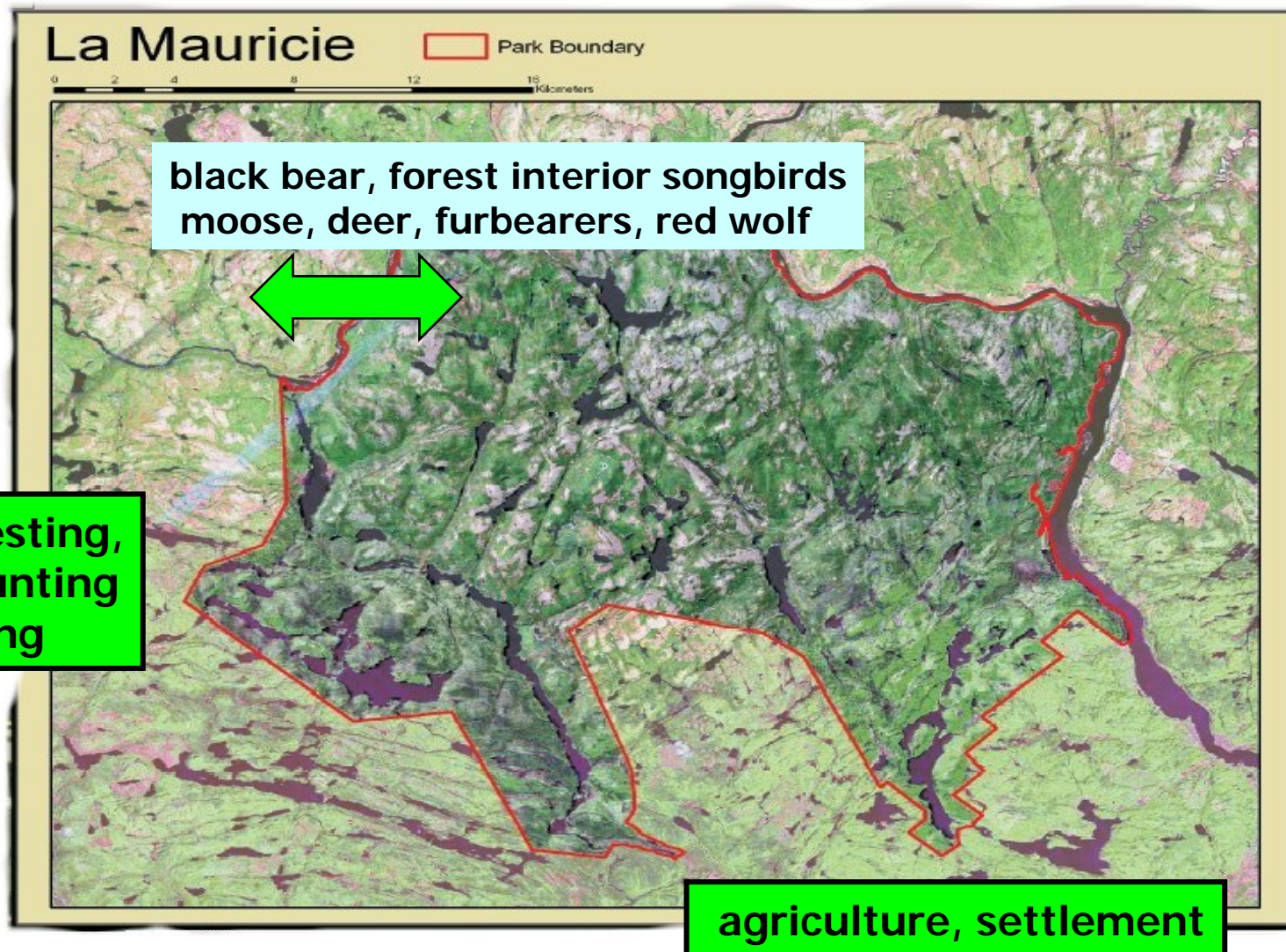
Purpose	Established 1970 to represent a sample of the St. Lawrence Precambrian Natural Region / Boreal Shield Ecozone -Southern Laurentians Ecoregion (transitional to Mixedwood Plains Ecozone)
Park/GPE Area	Park: 544 km ² (located in the heart of the Laurentian Mountains); GPE: 1,962 km ²
Ecological Features	Large rolling plateau with low hills dotted with lakes and ponds formed by glacial action; diversified aquatic and riparian fauna including rare species reflecting the park's location in a transitional zone between coniferous forest to the north and mixed deciduous to the south.
Visitation	Moderate visitation in relation to park area; ca. 225,000 people visit the park per year.
Species Issues	Represents northern and southern extension of species ranges for many species. Mammals: 50; Birds: 187; Fish: 31; Amphibians: 13; Reptiles:5; Plants: 663; Species at Risk (SAR): 9
Stress/Impacts	Main GPE stresses are acid rain, habitat fragmentation, water regime modification, hunting, trapping, and poaching, forest fire control, insect epidemics and diseases, exotic invasive species, recreational fishing, visitor use, and solid waste management. In addition, the park experienced considerable forest resource exploitation prior to park establishment.



Parks
Canada

Parcs
Canada

Canada



Parks
Canada

Parcs
Canada

Canada



St. Lawrence Islands NP



Mixedwood Plains Ecozone



Parks
Canada

Parcs
Canada

Canada

St. Lawrence Islands NP

Purpose	Established in 1904 to represent the Canada-Mixedwood Plains Ecozone (Frontenac Axis Ecoregion) and transitional to Boreal Shield Ecozone (Algonquin-Lake Nipissing Ecoregion)
Park/GPE Area	Park: 6 km ² (islands in the St. Lawrence River); GPE: 4,300 km ² (Thousand Islands Ecosystem)
Ecological Features	Mostly thin glacial deposits over bedrock dominated by hardwood forests of sugar and red maple, American beech, and red oak, as well as important riverside and enclosed wetlands. Considered an important connectivity corridor for the Adirondacks to Algonquin initiative.
Visitation	Very heavy visitation in relation to park area; access by boat to islands makes access control a major issue; 69,369 (1998 figure); ~ 75,000 at present
Species Issues	Represents northern extension of species ranges for many US distributed species. Mammals: 53; Birds: 239; Herpetiles: 34; Fish: 98; Plants: 814; Species at Risk (SAR): 28;
Stress/Impacts	major river (St. Lawrence Seaway) and road (Highway 401) transportation corridors; main GPE stresses are settlement and land clearance, urbanization, transportation and utility corridors, exotic species, sport fishing, heavy metals, acid deposition, climate change, and some forestry.



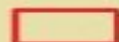
Parks
Canada

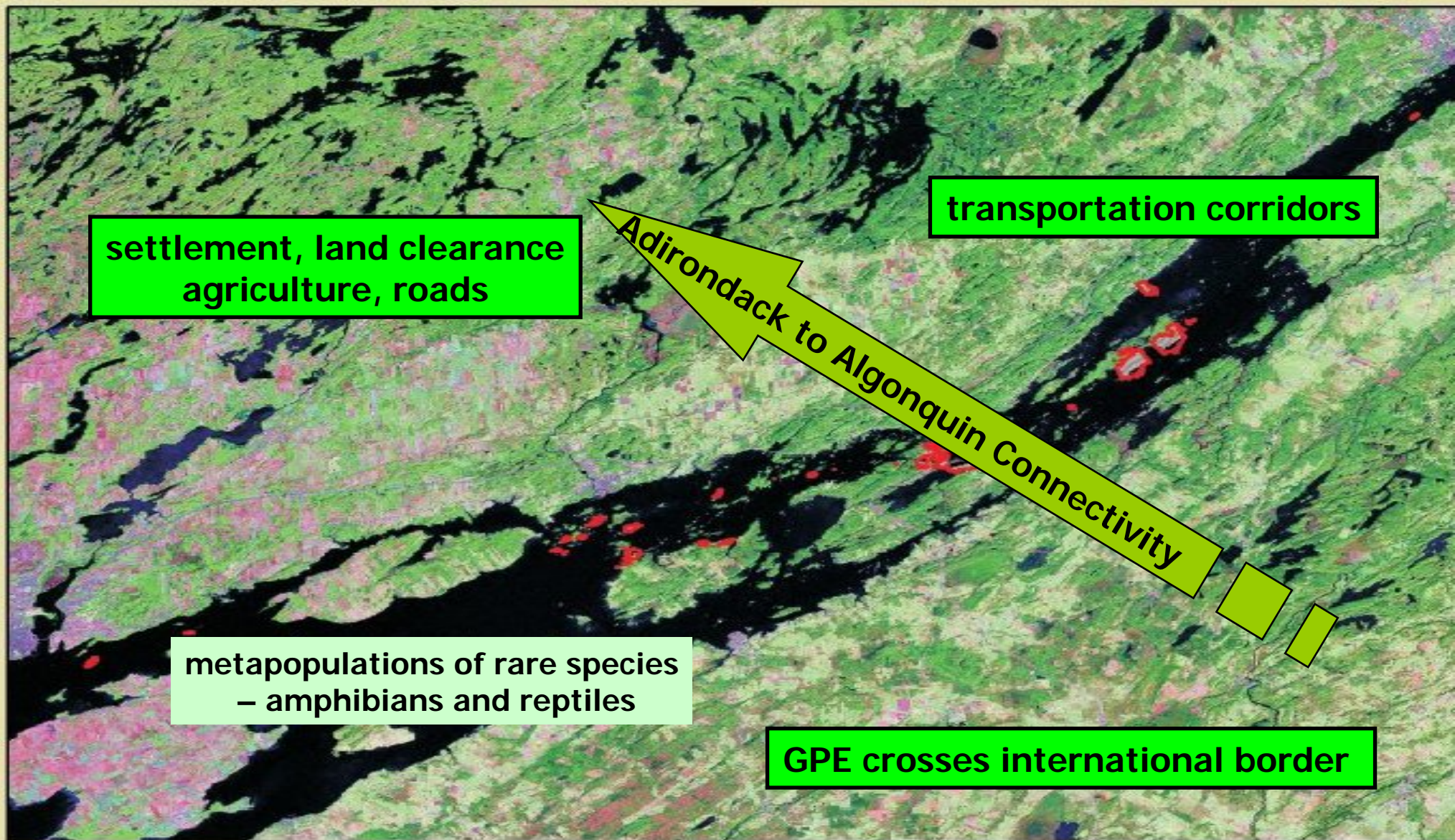
Parcs
Canada

Canada

St-Lawrence Islands

0 3 6 12 18 24 Kilometers

 Park Boundary



Parks
Canada

Parcs
Canada

Canada 



Workshop Questions

1. What should we be monitoring?
2. How should we measure/monitor it and what are the specific challenges to the different approaches?
3. Who can give us further information and/or help us implement these approaches?
4. What else do we need? Are there ecological or other models we should use?
5. How do we link RS/EO data to air-photo based inventories?

